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Jean-Francois Mainguet

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EXAMINER

RICE, ELISA M

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/541,395	<b>Applicant(s)</b> MAINGUET, JEAN-FRANCOIS	
	<b>Examiner</b> ELISA M. RICE	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on July 1, 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-15 and 20-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendments***

Applicant's amendments filed on July 1, 2005 have been entered. Claims 12-15, 20-44 are pending.

### ***Response to Arguments***

Applicant's arguments received on December 18, 2007 have been considered but since they are directed to the amended set of claims, they are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lapsley et al. (US 5,737,439) in view of Mainguet (US 6,289,114 B1).

**Regarding claim 12**, Lapsley discloses a person recognition device, comprising (“anti-fraud biometric scanner”, see the abstract):

a scanning fingerprint image sensor (Fig. 7, numeral 411) operable for acquiring images of a fingerprint of a finger (“the fingerprint imager CCD forms an image of the object being scanned”, Lapsley, column 2, line 54).

a spectral transmission information sensor (Fig. 7, 403) for acquiring spectral transmission information relating to the skin of the finger (extracts characteristics such as the frequency and amplitude of the signal,” Lapsley, column 4, line 62; “The deception detection step extinguishes the first light source, measures the light energy emitted by the object while the first light source is extinguished” , Lapsley, column 2, line 54) . In this case, the object comprises among other things the skin of the finger.

The deception detection (Fig. 6, 303) includes a sensor for spectral transmission information relating to the skin of the finger whose print is resting on and recorded by the image sensor in Figure 7.

circuitry coupled to the sensors and operable for initiating alternate acquisition of the images and the spectral transmission information ("The fingerprint imager light source illuminates the object and the fingerprint imager CCD forms an image of the object being scanned. The fingerprint imager light source is then turned off, and the microprocessor (not shown) uses the first and second LEDs and photodetector to determine whether or not the object being scanned exhibits characteristics of blood flow consistent with that of a live human in accordance with the methods of the invention. In an alternate embodiment, a CMOS image array replaces the CCD.",, Lapsley, column 7, line 42; column 7, line 28-30)

Lapsley does not disclose:

acquiring partial images of a fingerprint of a finger obtained during a relative movement between the finger and the image sensor;

However, Mainguet teaches acquiring partial images of a fingerprint of a finger obtained during a relative movement between the finger and the image sensor ("partial images of the complete fingerprint", Mainguet, column 3, line 31)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Lapsley's biometric scanner with the method of acquiring partial

images of a fingerprint of a finger obtained during a relative movement between the finger and the image sensor as taught by Mainguit in order to provide images of fingerprints from smaller sensor areas and thus “reduce the cost of manufacturing” and increase “the number of individuals that can be authenticated by a silicon wafer” as stated by the Mainguet reference in column 2, line 18.

Claims 13-15, 20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lapsley et al. (US 5,737,439) and Mainguet (US 6,289,114 B1).

**Regarding claim 13**, the combination of Lapsley and Mainguet discloses the device as claimed in claim 12, wherein the fingerprint image sensor (Lapsley, Fig. 7, numeral 410; Lapsley, Fig. 9, numeral 510) and the spectral transmission information sensor has light-emitting diodes (Lapsley, Fig. 1, numeral 102) and photodiodes (Lapsley, Fig. 1, numeral 103).

The combination of Lapsley and Mainguet does not disclose wherein the fingerprint image sensor is located on a silicon chip.

Mainguet discloses wherein the fingerprint image sensor (“Fig. 3 gives a schematic view of an exemplary integrated circuit constituting the fingerprint sensor according to the invention”, Mainguet, column 5, line 29) is located (“The integrated circuit is formed by a semiconductor substrate 20 which in principle is a silicon substrate. In this substrate there are formed circuits 22 for the reading and processing of electric charges. These

circuits are for example CCD (charge-coupled devices working by charge transfer) circuits or C-MOS circuits. They are made according to the standard technologies for the manufacture of integrated circuits made of silicon,” Mainguet, column 6, line 32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the fingerprint scanner of Lapsley’s fingerprint scanner circuitry on a silicon chip as expressly taught in Mainguet’s fingerprint-reading system because such circuits offer smaller size and lower cost.

**Regarding claim 14**, the combination of Lapsley and Mainguet discloses the device as claimed in claim 13, the combination of Lapsley and Mainguet discloses wherein the photodiodes and the light-emitting diodes are located on the same chip as the print image sensor (“The imaging surface 307 of the fingerprint scanner is attached to an enclosure 308 that secures the first LED 302 and second LED 306 and the photodetector 303.”, Lapsley, column 6, line 67).

**Regarding claim 15**, the combination of Lapsley and Mainguet discloses the device as claimed in claim 13, wherein the light-emitting diodes and the photodiodes are arranged symmetrically with respect to an axis (Lapsley, Fig. 1, see 102 and 103).

**Regarding claim 20**, the combination of Lapsley and Mainguet discloses the device as claimed in claim 12, wherein the fingerprint image sensor is a capacitive sensor (“the fingerprint scanner comprises a two-dimensional capacitance detector, forming a fingerprint image using capacitance.”, Lapsley, column 7, line 8).

**Regarding claim 22**, the combination of Lapsley and Mainguet discloses the device as claimed in claim 12, wherein the spectral information acquisition comprises a measurement at a wavelength used for the detection of blood (“The result of the frequency and amplitude detection are then made available for a determination by the microprocessor as to whether or not the frequency and amplitude values of the signal fall within minimum and maximum levels that are consistent with blood flow in a live human. Thus, by measuring the variation in transmitted or reflected red light, the invention rapidly determines if the object being scanned exhibits characteristics of blood flow consistent with that of a live human.”, Lapsley, column 5, line 16).

**Regarding claim 23**, the combination of Lapsley and Mainguet discloses the device as claimed in claim 14, wherein the light-emitting diodes and the photodiodes are arranged symmetrically with respect to an axis (Lapsley, Fig. 1, see 102 and 103).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lapsley et al. (US 5,737,439) and Mainguet (US 6,289,114 B1) as applied to claim 12, further in view of Eguchi et al. (US 4,728,186).

**Regarding claim 21**, while the combination of Lapsley and Mainguet discloses wherein the device as claimed in claim 12, the combination of Lapsley and Mainguet does not disclose wherein a same light source is used both for the fingerprint acquisition and for the spectral information acquisition.

However, Eguchi discloses wherein the same light source is used both for the fingerprint acquisition and for the spectral information acquisition (column 11, line 15-line 56; Fig. 22).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Lapsley and Mainguet to utilize Eguchi's single light source used for both the fingerprint acquisition and for the spectral information acquisition in order to reduce the number of components and thus the manufacturing cost.

Claims 24, 29, 34, 38, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lapsley et al. (US 5,737,439) in view of Rowe (US 6,560,352 B2).

**Regarding claims 24**, Lapsley discloses a method comprising:

acquiring a fingerprint image of a first finger of a person (“the fingerprint imager CCD forms an image of the object being scanned”, Lapsley, column 2, line 54);

acquiring spectral characteristic information of skin of the first finger or a second finger of the person, where the spectral characteristic information is related to dermis structure (The deception detection step extinguishes the first light source, measures the light energy emitted by the object while the first light source is extinguished” , Lapsley, column 2, line 54) . In this case, the object comprises among other things the skin of the finger. The deception detection (Fig. 6, 303) includes a sensor for spectral transmission information relating to the skin of the finger whose print is resting on and recorded by the image sensor in Figure 7.);

and using at least a portion of the fingerprint image is used to recognize the person (Fig. 2, “Compare Thresholds” and “Finished”);

While Lapsley discloses using spectral characteristic information to confirm that the subject is indeed a live person by detecting blood (blood is a tissue) flow, Lapsley does not disclose whereby at least a portion of the spectral characteristic information is used to recognize the person.

Rowe teaches wherein at least a portion of the spectral characteristic information is used to recognize the person (Fig. 8, num 810, 820, 830, abstract).

It would have been obvious to one of ordinary skill in the art to modify the invention of Lapsley to include the method of using spectral characteristic information to recognize the person as taught by Rowe because using multiple biometric systems in order to recognize the identity of the individual is well-known in the art to increase reliability ("As well, the biometric methods of the present invention can be used in conjunction with other biometric techniques to either increase the accuracy of the system, or offer more than one method to identify a person in case one method is disabled due to system failure or other reason.", Rowe, column 8, lines 27-32).

**Regarding claim 29,** A device comprising:

an image sensor operable for acquiring a fingerprint image of a first finger of a person("the fingerprint imager CCD forms an image of the object being scanned", Lapsley, column 2, line 54);

a spectral transmission sensor operable for acquiring spectral characteristic information of skin of the first finger or a second finger of the person, where the spectral characteristic information is related to dermis structure (The deception detection step extinguishes the first light source, measures the light energy emitted by the object while the first light source is extinguished" , Lapsley, column 2, line 54); and

using at least a portion of the fingerprint image is used to recognize the person (Fig. 2, “Compare Thresholds” and “Finished”);

While Lapsley discloses using spectral characteristic information to confirm that the subject is indeed a live person by detecting blood (blood is a tissue) flow, Lapsley does not disclose whereby at least a portion of the spectral characteristic information is used to recognize the person.

Rowe teaches wherein at least a portion of the spectral characteristic information is used to recognize the person (Fig. 8, num 810, 820, 830, abstract).

It would have been obvious to one of ordinary skill in the art to modify the invention of Lapsley to include the method of using spectral characteristic information to recognize the person as taught by Rowe because using multiple biometric systems in order to recognize the identity of the individual is well-known in the art to increase reliability (“As well, the biometric methods of the present invention can be used in conjunction with other biometric techniques to either increase the accuracy of the system, or offer more than one method to identify a person in case one method is disabled due to system failure or other reason.”)(Rowe, column 8, lines 27-32).

**Regarding claim 34**, A method comprising:

acquiring a fingerprint image of a first finger of a person(“the fingerprint imager CCD forms an image of the object being scanned”, Lapsley, column 2, line 54);

acquiring spectral characteristic information of skin of the first finger or a second finger of the person("The deception detection step extinguishes the first light source, measures the light energy emitted by the object while the first light source is extinguished", Lapsley, column 2, line 54).

Lapsley does not disclose checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and using a result of the checking to recognize the person.

Rowe teaches checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and using a result of the checking to recognize the person (Rowe, column 8, lines 28-33).

It would have been obvious to one of ordinary skill in the art to modify the invention of Lapsley to include checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and using a result of the checking to recognize the person "to increase the accuracy of the system, or offer more than one method to identify a person in case one method is disabled due to system failure or other reason." (Rowe, column 8, lines 27-32)

**Regarding claim 38**, Lapsley discloses a device comprising:

an image sensor operable for acquiring a fingerprint image of a first finger of a

person("the fingerprint imager CCD forms an image of the object being scanned",  
Lapsley, column 2, line 54);

and a spectral transmission sensor operable for acquiring spectral characteristic  
information of skin of the first finger or a second finger of the person ("The deception  
detection step extinguishes the first light source, measures the light energy emitted by  
the object while the first light source is extinguished", Lapsley, column 2, line 54),

where the device is operable for checking the consistency between at least a portion of  
the fingerprint image and at least a portion of the spectral characteristic information

and using at least a portion of the fingerprint image is used to recognize the person (Fig.  
2, "Compare Thresholds" and "Finished");

While Lapsley discloses using spectral characteristic information to confirm that the  
subject is indeed a live person by detecting blood (blood is a tissue) flow, Lapsley does  
not disclose whereby at least a portion of the spectral characteristic information is used  
to recognize the person.

Rowe teaches wherein at least a portion of the spectral characteristic information is  
used to recognize the person (Fig. 8, num 810, 820, 830, abstract).

While Lapsley discloses using spectral characteristic information to confirm that the  
subject is indeed consistent with a live person by detecting blood (blood is a tissue)  
flow, Lapsley does not disclose where the device is operable for checking for

consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information, and for using a result of the checking to recognize the person.

Rowe teaches where the device is operable for checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information, and for using a result of the checking to recognize the person (Rowe, column 5, lines 45-50; Rowe, column 8, lines 28-33; Rowe, column 8, lines 27-32; Rowe, column 4, lines 61-63).

It would have been obvious to one of ordinary skill in the art to modify the invention of Lapsley to include the method of using spectral characteristic information *to recognize* the person as taught by Rowe because using multiple biometric systems in order to recognize the identity of the individual is well-known in the art to increase reliability ("As well, the biometric methods of the present invention can be used in conjunction with other biometric techniques to either increase the accuracy of the system, or offer more than one method to identify a person in case one method is disabled due to system failure or other reason." (Rowe, column 8, lines 27-32)

**Regarding claim 44**, Lapsley discloses a system comprising:

means for acquiring a fingerprint image of a first finger of a person ("the fingerprint imager CCD forms an image of the object being scanned", Lapsley, column 2, line 54);

means for acquiring spectral characteristic information of skin of the first finger or a second finger of the person ("The deception detection step extinguishes the first

light source, measures the light energy emitted by the object while the first light source is extinguished”, Lapsley, column 2, line 54, The object is purportedly the finger.), means for checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and means for using a result of the checking to recognize the person.

While Lapsley discloses using additional spectral characteristic information to confirm that the subject is indeed consistent with a live person by detecting blood (blood is a tissue) flow, Lapsley does not disclose means for checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and means for using a result of the checking to recognize the person.

Rowe teaches means for checking for consistency between at least a portion of the fingerprint image (visible spectral information) and at least a portion of the spectral characteristic information; and means for using a result of the checking to recognize the person column (Rowe, column 5, lines 45-50; Rowe, column 8, lines 28-33; Rowe, column 8, lines 27-32; Rowe, column 4, lines 61-63).

It would have been obvious to one of ordinary skill in the art to modify the invention of Lapsley to include the means for using spectral characteristic information *to recognize* the person and means for using a result of the checking to recognize the person as taught by Rowe because using multiple biometric systems in order to recognize the identity of the individual is well-known in the art to increase reliability (“As

well, the biometric methods of the present invention can be used in conjunction with other biometric techniques to either increase the accuracy of the system, or offer more than one method to identify a person in case one method is disabled due to system failure or other reason.”, Rowe, column 8, lines 27-32).

Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lapsley et al. (US 5,737,439) and Rowe (US 6,560,352 B2) as applied to claim 24.

**Regarding claim 25 and 26**, the combination of Lapsley and Rowe discloses the method of claim 24, where acquiring the fingerprint image and the spectral characteristic information further comprises:

acquiring a first portion of the fingerprint image (Lapsley, Fig. 2, “Read A/D Sample”);

acquiring a first portion of the spectral characteristic information (Rowe, Fig. 11, num. 1100; During the enrollment phase a first portion of the fingerprint image is obtained.);

acquiring a second portion of the fingerprint image (Lapsley, Fig. 2, “Collected Enough Samples”; and acquiring a second portion of the spectral characteristic information (Rowe, Fig. 11, num. 1110; During the enrollment phase a second portion of the spectral characteristic information);

**Regarding claim 27**, the combination of Lapsley and Rowe discloses the method of claim 24, where acquiring the spectral characteristic information further comprises: measuring an optical response of the skin to a light excitation for different optical wavelengths ("More specifically, the invention relates to methods and apparatus for biometric identification or verification of a living individual using optical energy in the near-ultraviolet, visible or near-infrared regions or combinations of wavelengths from these regions to measure the absorption and scattering of the light energy by tissue below the epidermis.", column 1, line 26-31).

**Regarding claim 28**, the combination of Lapsley and Rowe discloses the method of claim 24, further comprising:

checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and using a result of the checking to recognize the person (Rowe, column 6, lines 11-14).

Claims 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lapsley et al. (US 5,737,439) and Rowe (US 6,560,352 B2) as applied to claim 29.

**Regarding claims 30 and 31**, the combination of Lapsley and Rowe discloses the device of claim 29, where acquiring the fingerprint image and the spectral characteristic information further comprises:

acquiring a first portion of the fingerprint image (Lapsley, Fig. 2, "Read A/D Sample");  
acquiring a first portion of the spectral characteristic information (Rowe, Fig. 11, num. 1100; During the enrollment phase a first portion of the fingerprint image is obtained.);  
acquiring a second portion of the fingerprint image (Lapsley, Fig. 2, "Collected Enough Samples"; and acquiring a second portion of the spectral characteristic information (Rowe, Fig. 11, num. 1110; During the enrollment phase a second portion of the spectral characteristic information);

**Regarding claim 32**, the combination of Lapsley and Rowe discloses the device of claim 29, where acquiring the spectral characteristic information further comprises: measuring an optical response of the skin to a light excitation for different optical wavelengths ("More specifically, the invention relates to methods and apparatus for biometric identification or verification of a living individual using optical energy in the near-ultraviolet, visible or near-infrared regions or combinations of wavelengths from these regions to measure the absorption and scattering of the light energy by tissue below the epidermis.", (Rowe, column 1, line 26-31).

**Regarding claim 33**, the combination of Lapsley and Rowe discloses the device of claim 29, wherein the device checks for consistency between at least a portion of the fingerprint image and the spectral characteristic information, and uses a result of the check to recognize the person (Rowe, column 6, line 11).

Claims 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lapsley et al. (US 5,737,439) and Rowe (US 6,560,352 B2) as applied to claim 34.

**Regarding claims 35 and 36**, the combination of Lapsley and Rowe discloses the method of claim 34, where acquiring the fingerprint image and the spectral characteristic information further comprises:

acquiring a first portion of the fingerprint image (Lapsley, Fig. 2, "Read A/D Sample");

acquiring a first portion of the spectral characteristic information (Rowe, Fig. 11, num. 1100; During the enrollment phase a first portion of the fingerprint image is obtained.);

acquiring a second portion of the fingerprint image (Lapsley, Fig. 2, "Collected Enough Samples"; and acquiring a second portion of the spectral characteristic information (Rowe, Fig. 11, num. 1110; During the enrollment phase a second portion of the spectral characteristic information);

**Regarding claim 37**, The method of claim 34, where acquiring the spectral characteristic information further comprises: measuring an optical response of the skin to a light excitation for different optical wavelengths ("More specifically, the invention relates to methods and apparatus for biometric identification or verification of a living individual using optical energy in the near-ultraviolet, visible or near-infrared regions or

combinations of wavelengths from these regions to measure the absorption and scattering of the light energy by tissue below the epidermis.”, Rowe, column 1, line 26-31).

Claims 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lapsley et al. (US 5,737,439) and Rowe (US 6,560,352 B2) as applied to claim 38.

**Regarding claims 39 and 40**, the combination of Lapsley and Rowe discloses the device of claim 38, where acquiring the fingerprint image and the spectral characteristic information further comprises:

acquiring a first portion of the fingerprint image (Lapsley, Fig. 2, “Read A/D Sample”);  
acquiring a first portion of the spectral characteristic information (Rowe, Fig. 11, num. 1100; During the enrollment phase a first portion of the fingerprint image is obtained.);  
acquiring a second portion of the fingerprint image (Lapsley, “Collected Enough Samples”; and acquiring a second portion of the spectral characteristic information (Rowe, Fig. 11, num. 1110; During the enrollment phase a second portion of the spectral characteristic information);

**Regarding claim 41**, the combination of Lapsley and Rowe discloses the device of claim 38, where acquiring the spectral characteristic information further comprises:

measuring an optical response of the skin to a light excitation for different optical wavelengths ("More specifically, the invention relates to methods and apparatus for biometric identification or verification of a living individual using optical energy in the near-ultraviolet, visible or near-infrared regions or combinations of wavelengths from these regions to measure the absorption and scattering of the light energy by tissue below the epidermis.", Rowe, column 1, line 26-31).

**Regarding claim 42**, the combination of Lapsley and Rowe discloses the device of claim 38, where the image sensor and the spectral transmission sensor share a surface on which the first or second finger presses during a person recognition operation (Lapsley, column 7, line 21-23).

**Regarding claim 43**, the combination of Lapsley and Rowe discloses the device of claim 38, where the image sensor is smaller than the spectral transmission sensor to enable the acquisitions with a single touch by the user (Lapsley, column 7, lines 46-47).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELISA M. RICE whose telephone number is (571)270-1582. The examiner can normally be reached on 8:00a.m.-5:30p.m. EST Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on (571)272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. M. R./  
Examiner, Art Unit 2624

/Samir A. Ahmed/  
Supervisory Patent Examiner, Art Unit 2624